
Annual Report

OF THE

COPPERFIELD

Mining & Smelting Co.,

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≡REPORT.≡

THE year just passed has witnessed many changes for the better developement of the Mine and plant generally, and the success that I can to-day report upon is to a great extent due to the most faithful services rendered by Capt. Wm. Vague, who for a period of nearly two years has been in full charge of the Mine and who with untiring energy and with rare skill has always been at work with the men, that I with much regret now see the pleasant connections severed, owing to the necessity of his taking charge of his own property, the Cape Rosier Copper Mine in Maine.

A year ago I reported good success with the pumping plant, judging that by May 1st the Mine would be pumped dry, but a great deal of trouble was experienced where rotten timber had been crushed by the weight of rock and the shaft in many places was completely filled up, and the roof had caved in, causing almost insurmountable difficulties.

After thirteen months steady pumping with two Blake's Duplex plunger pumps, 12x4x12, the bottom

was finally reached in July, and the incline shaft measured 2450 feet on the dip from the main adit or landing.

As the water gradually receded one good place after another was laid open and work was immediately commenced in old drifts and stopes, enabling me to more regularly supply the furnaces, than heretofore when I obtained my material only from smaller pinched up ore bodies.

The place known as Cook's stope was the first large body found, and after drifting north some thirty feet stoping by power drills was vigorously commenced and two Ingersoll-Sergeant rock drills were worked, enabling us to increase our daily production from thirty to forty tons in September, and a third machine was set up in November, bringing up the daily output to fifty tons for the last few months. The shaft was meanwhile given out on contract and I have to report 142 feet sunk.

While formerly much timbering was done, we have now secured all the lower workings by large natural pillars, which we leave there irrespective of larger or lesser copper contents. Most of the poor rock broken with the ore was collected and several large rock stulls have been built up by this material, thus avoiding any timbering in the new part of the Mine.

Several gangs of Tributors are at work, and stoping as well as drifting heretofore done by days work only, are now being arranged for by contract.

There is hardly any water now collecting in the Mine, except some drippings from the surface and from crevices, all of which is easily checked by say, one-half day's pumping every three weeks.

The air-compressor plant, furnished by the Ingersoll-Sergeant Rock Drill, Co., acquired last year is working very satisfactorily.

There are seven power drills in all, three of which only have so far been used.

The large hoisting engine has but recently been supplied with a disconnecting clutch wheel and air-brakes, enabling us now to lower the cars down the incline shafts without using steam, whereas, heretofore steam was required for lowering as well as for hoisting. This of course represents a great saving of fuel, the hoisting of a car from the bottom to the surface taking just four minutes.

As latest addition to the Mine I would report a new 1 1/4 inch Crucible steel wire rope made to order by the John A. Roebling Sons Co., who also supplied one similar for the surface incline to convey the ore from dressing house to roasting plant.

The drift house, rock house and blacksmith shop adjoining have all been reconstructed and large additions have been made thereto to accommodate a new Vertical boiler four feet by nine feet, a twenty horse power steam engine and a 9x15 Blake rock-breaker, which have but recently been set up and by which I estimate the daily saving in cost of labor at from fifteen to twenty dollars.

The dressing house, engines, crusher, the surface track and the entire roasting ore plant are under the management of Capt. R. W. Barrett, who has for many years been connected with this property in a similar capacity and whose fame as an ore dresser is universally acknowledged.

Now following the loaded cars from the roast beds down to the smelter we there see newly added a large Water Jacket furnace, together with a bucket elevator erected nearly a year ago and both of which have already paid for themselves through economy of smelting and a great saving of time and labor, we being enabled to hoist a carload of some 3000 pounds material in less than two minutes by this elevator, whereas, by horse-car we formerly required from ten to fifteen minutes. Some additional kilns have also been added during the last year, giving us now a complement of thirty-five kilns.

There are now employed on the plant, 46 miners and trammers; 25 men and boys in rock house and dressing house; 40 in kilns and furnaces; 20 outside laborers; 12 engineers, machinists, blacksmiths and drill sharpeners; 10 carpenters, wheelwrights, masons and brick layers; 12 teamsters and car men; 4 wood choppers; 4 in office and laboratory, making a total of 173.

About three furnaces have been in blast constantly day and night, but owing to the scarcity of coke and unusually delayed shipments of late, we have been running day shifts only, during January and February.

Mr. Patrick Hailey has been in charge of the smelter and kilns for the last six months and his work has been most efficient and is highly appreciated.

With the erection of the water jacket a steam pump was set up to supply running water. This, I found, required many repairs and the almost constant attention of an engineer, and in order to avoid this trouble and expense, I provided a direct water-main some 1300 feet long, supplying a three inch running stream and this addition is giving great satisfaction.

The saw mill and carpenter shop with all their machinery were provided with steam connection from the furnace engine and are now easily run. Besides a matter of importance I consider the greater safety of the plant since boilers are no longer used in these buildings. This also has been the means of a large reduction of insurance premium amounting to over 25 per cent.

The company owns some 120 houses now and as the old ones had been sadly neglected for years, a large outlay was needed for repairs during the last year and many hundred thousand shingles were laid. About eight carpenters were constantly employed and four painters were kept busy for nearly six months. The company has built a number of barns, lumber sheds and wagon sheds to better provide for its property. Connecting tracks from the Mine to roasting plant kilns and furnaces are established and all transportation is well provided for.

All such expenses go to improvement account and will well pay in the long run.

A wood lot of thirty-seven acres adjoining the company's lands with standing timber, estimated at about 1000 cords, was recently acquired, increasing the company's real estate to some 1500 acres.

As this has been more a year of reconstruction than of regular practical mining, I have abstained from giving detailed statements as to cost of product, expenses and receipts, but I will here briefly state, that although the prices for copper have of late been unusually depressed, the company can continue to turn out its product at a fair margin.

Owing to great scarcity of good miners, single shifts only have been run and now that more men have been obtained, I propose running two shifts, which will nearly double our output in a short time.

The output from the Mine in 1890 yielded nearly seven and one-half million pounds of dressed ore, averaging seven per cent. copper, all of which was converted into black copper, which, owing to its special quality for tension and great purity, being entirely free from arsenic and antimony, always finds a ready sale.

All of which is respectfully submitted.

O. K. KRAUSE,

President and General Manager.

COPPERFIELD, VT., MARCH, 1891.